

WIRELESS ACCESS SYSTEM USING MULTIPLE MODULATION
FORMATS IN TDD FRAMES AND METHOD OF OPERATION

ABSTRACT OF THE DISCLOSURE

There is disclosed a radio frequency (RF) modem shelf for use
in a fixed wireless access network comprising a plurality of base
stations capable of bidirectional time division duplex (TDD)
communication with wireless access devices disposed at a plurality
of subscriber premises. The radio frequency (RF) modem shelf
comprises: a) a first RF modem for communicating with a plurality
of the wireless access devices using TDD frames, each TDD frame
having an uplink for receiving data and a downlink for transmitting
data; and b) a modulation controller associated with the RF modem
shelf for determining an optimum modulation configuration for each
of the plurality of wireless access devices communicating with the
first RF modem. The modulation controller causes the first RF
modem to transmit downlink data to a first wireless access device
in a first data block having a first optimum modulation
configuration and to transmit downlink data to a second wireless
access device in a second data block having a different second
optimum modulation configuration.